

In-Service Contamination of Thermal Acoustic Insulation

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In 1998, a Swissair MD-11 suffered a catastrophic in-flight cabin fire; caused by the ignition of MPET Thermal Acoustic Insulation blankets by a wire arcing event. The accident resulted in 229 fatalities. Following this accident, revised flammability requirements and test procedures were introduced for Thermal Acoustic Insulation (TAI).

However, contamination in hidden areas, particularly on TAI, continues to be a threat to aircraft safety as evidenced by fire occurrences such as those on the Boeing 767 in Toronto in May 2002 and the Boeing 747 in Sydney in August 2002. Aircraft surveys, testing and incident analysis to date, have identified that the primary threats are likely to be surface contamination by dust and lint, hydraulic oil that permeates into TAI materials and Corrosion Inhibiting Compounds (CICs). This presentation describes the research undertaken in this area on behalf of Transport Canada in association with the FAA and The UK Civil Aviation Authority.